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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/047,865	01/15/2002	Reuel S. Orocio		5116

7590 08/25/2003

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EXAMINER

EDGAR, RICHARD A

ART UNIT	PAPER NUMBER
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3745

DATE MAILED: 08/25/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/047,865

Applicant(s)

OROCIO ET AL.

Examiner

Richard Edgar

Art Unit

3745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on an amendment filed 28 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

On page 4 of the Amendment, Applicants directed the Office to cancel claims 1-5 and then presented claims 1-6 with claims 1, 2, 4 and 5 being in their original form and claims 3 and 6 being amended. The examiner has taken the position that Applicants have incorrectly interpreted 37 C.F.R. § 1.121(c) (1), based on the remarks that follow on pages 8-11. Therefore, the examiner has not canceled claims 1-5 but rather replaced the original claims 1-6 filed with the application, with the claims 1-6 presented in the Amendment filed 28 July 2003. It is noted that Applicants have correctly presented claims 1-6 as either being in their original form or amended and the changes made thereto.

The declaration filed on 28 July 2003 under 37 CFR 1.131 has been considered but is ineffective to overcome the United States Patent Application Publication No. 2002/0106277 reference.

The application names two inventors: Reuel Orcio and Thang Vu. However, the Declaration submitted is only signed by Reuel Orcio.

Also, under section 2 of the Declaration, a statement is made that a copy of the Disclosure is enclosed that was submitted to Patent Agent, Jack C. Munro. However, no such Disclosure is enclosed or attached to the submitted Declaration.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-4 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by United States Patent No. 4,647,271 issued to Nagai et al. (Nagai et al. hereinafter).

Nagai et al. disclose a method of manufacturing the pump impeller of Fig. 14 comprising: forming in a single molding operation a shroud 34, vanes 33 and shaft sleeve 31 so as to precisely obtain alignment of an axis of rotation of said sleeve with a longitudinal center axis of an integral annular inlet ring mounted on said shroud 34 where said annular inlet ring and said sleeve 31 are on opposite sides of said shroud 34, whereby during rotation of said impeller smooth, efficient substantially noise-free operation is obtained because said sleeve is in balance with said annular inlet ring (see col. 6, lines 10-22).

Nagai et al. disclose in Figure 23 a pump impeller 40 comprising: a series of vanes 43 having an outer end which is integrally mounted on a shroud 44, said shroud 44 having a centrally located annular inlet ring (not numbered) which provides an inlet to

an eye of said impeller 40; and a hub 42 integrally connected to an inner end of said vanes 43, said hub 42 having a sleeve 41 connected thereto, said sleeve 41 having an axis of rotation (shown but not numbered), said inlet ring having a longitudinal center axis, said axis of rotation being aligned with said longitudinal center axis, whereby rotation of said impeller produces essentially no vibration with said impeller rotating smoothly, efficiently and substantially noise-free; and a cover 46 mounted on said hub 42 covering said vanes 43, said cover 46 being located opposite said shroud 44 relative to said vanes 43 substantially enclosing said vanes 43. The sleeve 41 is located on one side of said vanes 43 and said shroud 44 being located on the opposite side of said vanes 43. The inlet ring diameter (D_3 ; see Fig. 14) being larger in size than said hub diameter (D_4 ; see Fig. 14) (see col. 9, lines 35-37), whereby because said inlet is larger than said hub, said pump impeller can be manufactured in a single molding operation.

Claims 1, 2, 4 and 6 are rejected under 35 U.S.C. 102(e) as being anticipated by United States Patent Application Publication No. US 2002/0106277 A1 filed by Chapman (Chapman hereinafter).

Chapman discloses in the various figures an impeller comprising a series of vanes 12 having an outer end which is integrally mounted on a shroud 13, the shroud 13 having a centrally located annular inlet ring (not numbered, but see the axially extending shroud portion adjacent ring 17 in Fig. 1) which provides an inlet to an eye of the impeller (refer to Fig. 6); and a hub 11 integrally connected to an inner end of the vanes 12, the hub 11 having a sleeve (not numbered, but see Figs. 6-9 showing the

sleeve fixed to the motor shaft) connected thereto. The sleeve is located on one side of the vanes 12 and the shroud 13 is located on the opposite side of the vanes 12.

Referring to Fig. 1, the inlet (R2) is larger in size than the hub (R1) and identified by a clearance ("c"), whereby the impeller can be manufactured in a single molding operation (see paragraph 0023).

The Chapman impeller is manufactured by a single injection molding method to produce the impeller described above.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over United States Patent No. 4,647,271 issued to Nagai et al. (Nagai et al. hereinafter).

Nagai et al. disclose a pump impeller comprising a sleeve 31, 41 integrally molded to the impeller hub 32, 42. The sleeve 31, 41 is provided for transmitting a motive force from a motor (see col. 6, lines 15-16). Nagai et al. do not explicitly state the length of the sleeve being at least one inch in length.

At the time the invention was made, it would have been an obvious matter of design choice to a person of ordinary skill in the art to mold the impeller of Nagai et al. with the sleeve being at least one inch in length because Applicant has not disclosed that the sleeve having at least a one inch length provides an advantage, is used for a particular purpose, or solves a stated problem.

Therefore, it would have been an obvious matter of design choice to modify Nagai et al. to obtain the invention as specified in claim 5.

Cited Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. United States Patent Nos. 5,927,947 (Botros) and 6,558,120 (Kim et al.) and United States Patent Application Publication Nos. 2002/0028138 (Lee) and 2003/0039548 (Kim) are cited for showing centrifugal pump impellers manufactured in a single molding operation.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard Edgar whose telephone number is (703) 305-0050. The examiner can normally be reached on Monday-Thursday and alternate Fridays 6:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Look can be reached on (703) 308-1044. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0861.



Richard Edgar
Examiner
Art Unit 3745

RE



EDWARD K. LOOK
SUPERVISORY PATENT EXAMINER
GROUP 3700
8/21/03